1882MNRAS..43...40F

majority of these observations have reference, and I have derived the following mean positions for July–August:—

(1)	$311^{\circ}.5+47^{\circ}.0$	*α* Cygnids, mean of 18 radiants.
(2)	$310.4+36.0$	*ε* Cygnids, mean of 14 radiants.
(3)	$311.8+62.3$	*α* Cepheids, mean of 14 radiants.

There are other and probably less active displays at this period of the year, both from *Cygnus* and *Cepheus*, while E. and W. in *Lacerta* and *Lyra* the sky is teeming with meteor showers. The shower at $311^{\circ}.8+62^{\circ}.3$ (*α* Cepheids), is quite a separate display to the shower at $335^{\circ}+73^{\circ}$ (*γ* Cepheids), though its contemporary activity is evident. And the pair of showers near *α* and *ε Cygni* are no doubt equally distinct though not always distinguished from each other owing to their proximity of position. There is, however a difference of 11° in declination, which is sufficiently large to prevent confusing the meteors of the two systems, especially when the motions are chiefly in R.A., and the meteors appear in the region of their radiant point.

Amongst the bright meteor showers of August 9–11 I may refer also to the *γ* Andromedes ($12^{\circ}+30^{\circ}$) and *o* Draconids ($284^{\circ}+62^{\circ}$), which are both well ascertained radiants included in Mr. Greg's general catalogue (1875), where they are placed at $7^{\circ}+33^{\circ}$ and $282^{\circ}+60^{\circ}$ from a mean of twelve positions each. It is to these and to the contemporary showers of Cepheids and Cygnids that many fine meteors (non-Perseids) of the August epoch owe their origin. Observers of future returns of the Perseids will, therefore, do well to note the paths of such fireballs as are not conformable to *Perseus*, so that they may be attributed their separate radiant points, and the investigation of these interesting minor showers carried yet further.

Bristol: 1882, *Nov.* 1.

The Electric Light in Observatories. By W. S. Franks.

I wish to bring under the notice of this Society a simple, cheap, and efficient means of obtaining illumination; equally applicable to the micrometer, divided circles, clock face, reading desk, &c. The light is so thoroughly successful that I feel sure it only requires to be made known, and I have Canon Beechey's permission to state freely what I saw of its action in his observatory (Hilgay Rectory, Norfolk) during a long night's work. Two of Swan's smallest incandescent lamps were in use, one for the reading desk and the other in micrometer; and, as they are never required to be both used at once, a switch directs the current from one to the other. The battery consists of four pint-size bichromate cells, the plates being 6 in. × 2 in. A

Downloaded from http://mnras.oxfordjournals.org/ by guest on April 9, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1882MNRAS..43...40F

wooden frame supports the plates, and a catgut line is fastened to its centre, then passes over a brass pulley, and is attached to a leaden counterpoise, which just balances it. Thus it will be seen that the plates can be depressed or raised, and the light correspondingly regulated to the utmost nicety. To give an idea of how the light can be reduced, I measured the 13 mag. *comes* to P. I. 145 *Piscium* with ease, with bright field illumination (the telescope is a 10-inch Calver). The lamp over the books was very beautiful, and pleasant to read by; and an abundant length of flexible silk-covered wire enabled it to be carried about anywhere in the observatory, for reading off the circles of equatorial, clock dial, &c. A spare battery is in reserve, in case the light diminishes after long use, but the worked battery is as good as ever after a few minutes' rest. It is necessary to be careful about the carbon connection; but a slip of platinum foil next the carbon, and a slip of brass between it and clamp screw, makes all safe against oxidation. It is almost unnecessary to add that I am now converting my own from oil to electricity, and earnestly advise others to do the same.

Leicester: 1882, *Nov.* 1.

On a Probable Assyrian Transit of Venus. By the Rev. S. J. Johnson, M.A.

That a solar spot 1′ of arc in diameter may be perceived by unaided vision will readily be granted. Consequently little notice need be taken of M. Arago's remark that "naked-eye observers of the transit of 1761 made more use of their imagination than of their eyes," especially as distinct mention is made of *Venus* being so seen by Mr. Holland at Quebec in 1769, and at Maros Vasarhely and other places in 1874. Conjunctions of *Venus* and the Sun are noted down in Stoffler's Ephemerides at the time of the transits of 1518 and 1526; but even if the idea of one had occurred, his tables show too great a distance between the planet and the Sun. As to the solar spot said to have been seen by Averrhoës in 1161, when *Venus* was in conjunction, it may be remarked that in the list of the transits given in Fergusson's Astronomy from La Lande's tables, only a single transit seems to have occurred in the twelfth century, in 1153. There is, however, one instance in very ancient times which may turn out to be a transit. A broken Assyrian tablet, just mentioned in a note of two lines by Rev. Mr. Sayce in "Nature" some years back, may perhaps deserve more attention than it has received. As the tablet is concerned with the planet *Venus*, and as the following succession of broken lines occurs, "the planet *Venus*"—"it passed across"—"the Sun"—"across the face of the Sun," it naturally occurs to try to fill up each hiatus. But it seems very difficult to explain the last sentence otherwise than by supposing that an actual transit is recorded, which, it seems,

Downloaded from http://mnras.oxfordjournals.org/ by guest on April 9, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System